DOCUMENT RESUME

ED 448 607 FL 026 541

AUTHOR Djigunovic, Jelena Mihaljevic
TITLE Language Learning Strategies and Affect. CLCS Occasional Paper.
INSTITUTION Trinity Coll., Dublin (Ireland). Centre for Language and Communication Studies.
REPORT NO CLCS-OP-59
ISSN ISSN-0332-3889
PUB DATE 2000-00-00
NOTE 32p.; Sponsored by a grant from the Open Society Institute Croatia.
PUB TYPE Reports - Research (143)
EDRS PRICE EDRS Price MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Adult Education; *Affective Measures; *Affective Objectives; Communication Apprehension; Communicative Competence (Languages); Elementary Secondary Education; English (Second Language); Foreign Countries; Learning Motivation; *Learning Strategies; Linguistics; Metacognition; Second Language Instruction; *Second Language Learning; Secondary Education; Self Concept

ABSTRACT

This highly technical and quantitatively-based study aims to investigate the strategy-affect interaction. The language learning strategies of the subjects were examined to find out the range and frequency of strategy use. The findings served as the basis for investigating the interactions with four affective learner factors: anxiety, self-concept, attributions, and motivation. The profile of the learner who uses strategies frequently is characterized by high motivation for learning English and by attributing success in learning to both effort and task enjoyment. Language learning strategy use was shown to be associated with all four affective learner factors. (Contains 5 charts, 13 tables, and 40 references.) (KFT)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 448 607

TRINITY COLLEGE DUBLIN

Centre for Language and Communication Studies

Language learning strategies and affect

Jelena Mihaljević Djigunović

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

D. G. Little

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2B

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

CLCS Occasional Paper No.59

ISSN 0332 3889

BEST COPY AVAILABLE

Autumn 2000

FL026541

CLCS Occasional Papers

General Editor: D. G. Little

CLCS Occasional Papers report on research carried out within or in association with the Centre for Language and Communication Studies, and on research carried out elsewhere which is of special interest to the Centre's own concerns and activities. In some instances they present the texts of public lectures promoted by the Centre.

The following titles have been published and are available from The Secretary, Centre for Language and Communication Studies, Trinity College, Dublin 2.

Autumn 1981

1. D. M. Singleton, *Language transfer: a review of some recent research* (31pp.)
2. Jeffrey L. Kallen, *Linguistics and oral tradition: the structural study of the riddle* (33pp.)
3. D. M. Singleton, *Age as a factor in second language acquisition* (70pp.) [OUT OF PRINT]

Summer 1982

4. Francis Nolan, *Voice quality and speech synthesis* (30pp.)
5. Roger Bennett, *Language elicitation procedures* (23pp.)

Winter 1982-3

6. S. M. Devitt, D. G. Little, S. P. Ó Conchúir & D. M. Singleton, *Learning Irish with* Anois is Arís (128pp.) [OUT OF PRINT]

Autumn 1983

7. William T. Littlewood, *A communicative approach to language-teaching methodology* (19pp.) [OUT OF PRINT]
8. Rose Maclaran, *On the interaction of semantics and pragmatics* (18pp.)
9. E. M. Harding, *Compensation strategies* (54pp.) [OUT OF PRINT]

Autumn 1984

10. Jeffrey L. Kallen, *Generative phonology in the clinic* (38pp.)
11. Gearóid OCiaráin, *The affective dimension in second/foreign language learning: an interactional perspective* (42pp.) [OUT OF PRINT]

Spring 1985

12. D. M. Singleton & D. G. Little, *Foreign languages at second level: defining a syllabus, with particular reference to the needs of the senior cycle* (19pp.)
13. John Harris, *The polylectal grammar stops here* (12pp.) [OUT OF PRINT]

Spring 1986

14. D. G. Little & A. J. Grant, *Learning German without a teacher. Report on a self-instructional programme for undergraduate students of Engineering Science at Trinity College, Dublin, 1982-1984* (60pp.)
15. Máire Owens, *Eithne: a study of second language development* (62pp.)
16. D. Wilson & D. Sperber, *Pragmatics: an overview* (36pp.)

Autumn 1986

17. Ailbhe Ní Chasaide & Eugene Davis, *A data-processing system for quantitative analysis in speech production* (28pp.)
18. Seán M. Devitt, *Learning a foreign language through the media* (69pp.)
19. Meriel Bloor & Thomas Bloor, *Languages for specific purposes: practice and theory* (34pp.) [OUT OF PRINT]

Spring 1988

20. D. G. Little & D. M. Singleton, *Authentic materials and the role of fixed support in language teaching: towards a manual for language learners* (26pp.)

Spring 1989

21. Seán M. Devitt, *Classroom discourse: its nature and its potential for language learning* (72pp.)
22. V. J. Cook, *The relevance of grammar in the applied linguistics of language teaching* (43pp.)

Spring 1990

23. Sera De Vriendt & Pete Van de Craen, *Bilingualism in Belgium: a history and an appraisal* (52pp.)
24. David Singleton, *The cross-linguistic factor in second language learning: a report on some small-scale studies recently conducted at the CLCS* (20pp.)

Autumn 1990

25. Paul Farrell, *Vocabulary in ESP: a lexical analysis of the English of electronics and a study of semi-technical vocabulary* (82pp.) [OUT OF PRINT]
26. David Singleton, *The TCD Modern Languages Research Project: objectives, instruments and preliminary results* (19pp.)
27. Federica Scarpa, *Contrastive analysis and second language learners' errors: an analysis of C-test data elicited from beginners in Italian* (47pp.)

Spring 1991

28. Jennifer Ridley, *Strategic competence in second language performance: a study of four advanced learners* (95pp.) [OUT OF PRINT]

(continued on inside back cover)

CLCS Occasional Paper No. 59
Autumn 2000

Language learning strategies and affect*

Jelena Mihaljević Djigunović

0 Introduction

Although the first ideas about learning strategies can, according to some authors (e.g., Nisbet and Shucksmith 1986), be traced as far back as the beginning of the twentieth century, in the field of foreign language learning the first concrete attempts to investigate the phenomenon can be found in the work of Rubin (1975) and Stern (1975). The insights they obtained by comparing the learning behaviours of good and poor language learners resulted in lists of strategies that were considered promising in leading the language learner to successful learning. The numerous studies carried out by these and other authors (e.g., Cohen 1998; O'Malley and Chamot 1990; Oxford 1990) since then have focused on defining the concept of learning strategies, investigating their impact on learning achievement, and studying the connections with other learner variables as well as other aspects of language learning. In spite of all the effort invested so far in studying language learning strategies, it might be fair to say that we have only touched the surface of this interesting and important phenomenon.

Cohen (1998, p.5) defines language learning strategies as conscious processes that the language learner selects during learning and is at least partially aware of. The purpose of selecting these processes is the enhancement of learning. The stress on enhancement is present in Ehrman and Oxford's (1990, p.312) definition of strategies as conscious behaviours by means of which language learners improve the acquisition, storage, retention, recall and use of new information on language. Oxford (1990, p.9) lists twelve features of language learning strategies – they

1. contribute to the main goal, communicative competence;

---

* The research described in this paper was made possible by a grant from the Open Society Institute Croatia. The author wishes to thank Andrew Cohen of the University of Minnesota for his valuable comments on the draft version of the paper.

2. allow learners to become more self-directed;
3. expand the role of teachers;
4. are problem-oriented;
5. are specific actions taken by the learner;
6. involve many aspects of the learner, not just the cognitive;
7. support learning both directly and indirectly;
8. are not always observable;
9. are often conscious;
10. can be taught;
11. are flexible;
12. are influenced by a variety of factors.

With new studies appearing, replete with indications of connections between learning strategies and other aspects of language learning, the term learning strategies became conceptually too narrow. This led to the introduction of the term *learner strategies*. This term came to include language learning and language use strategies. Cohen (1998, pp.5–6) thus makes use of the term learner strategies to encompass strategies for identifying what should be learned, grouping the material for easier learning, having repeated contact with it and committing the material to memory (*learning strategies*), and retrieval, rehearsal, cover and communication strategies (*language use strategies*). Learner strategies are often broken down into cognitive, metacognitive, affective and social strategies and are operationalized as such in strategy lists or inventories (O'Malley and Chamot 1990; Oxford 1990) that are then used for research purposes.

One of the major problems that strategy research has had to solve is the problem of methodology since what is being looked into are, generally speaking, mentalistic processes, which do not lend themselves to direct inspection. A number of methods of obtaining data about strategy use have been developed so far. In a comprehensive analysis of strategy research methodology Cohen (1998) mentions the following six major research methods of strategy assessment: oral interviews and written questionnaires; observation; verbal report; diaries and dialogue journals; recollection studies; computer tracking. Each of these seems to have both advantages and disadvantages. A new appoach in strategy research is triangulation (McDonough 1995), which entails using more than one method of data collection in order to substantiate the data on strategy use, thus compiling multiple evidence about the same occurrence of strategy use.

1 Language learning strategies and affective learner attributes

The investigation of affective learner factors is often pointed out as important for gaining deeper insights into learning strategies. Thus, as a result of strategy studies, Oxford and Crookall (1989) conclude that strategy use is associated with variables such as motivation and other personality factors. Gardner and MacIntyre (1992) argue that while language learning strategies are considered a cognitive variable, they have an affective origin because learner affective characteristics are most probably responsible for strategy use. Among the affective learner attributes, motivation is the most often mentioned as exerting an important influence on strategies. Oxford and Nyikos (1989), having found that motivation was the best correlate of strategy use, postulate that motivation causes strategy use, which in turn influences self-rated proficiency and self-esteem, with self-esteem promoting motivation, and motivation causing further strategy use. Gardner and MacIntyre (1992) state that strategies have a motivational basis because they develop from prior experience and the learner has, in the first place, to be motivated to use a strategy. According to Bacon and Finnemann (1990), the willingness to use strategies results from an interaction of attitudes, motivation, anxiety and personality. Nyikos (1990) claims that strategies engage the language learner with the language input at a deeper cognitive level. One may postulate that this deeper engagement is associated with the interaction of affective factors.

2 Aim of the present study

The study to be described here was conducted with the aim of investigating the strategy–affect interaction. First, the language learning strategies of the subjects were examined to find out the range and frequency of strategy use. The findings served as the basis for investigating the interactions with four affective learner factors: anxiety, self-concept, attributions and motivation.

2.1 Subjects and methodology

2.1.1 Subjects

A total of 362 Croatian EFL learners participated in the study. There were 137 primary school learners, 169 secondary school learners and 56 university undergraduates. All the subjects had English as a compulsory school subject or university course. The three education

levels in this study correspond to three age groups and to three different EFL proficiency levels. The primary school sample consisted of learners from five different schools (six eighth grade classes). The secondary school sample comprised six classes (two grade 1, two grade 2 and two grade 3 classes) from a typical Croatian grammar school. The university sample included freshmen and sophomores majoring in political science and journalism. The biodata obtained from the subjects included information about their age, gender and EFL achievement (end-of-term teacher-assigned grade in English).

2.1.2 Instruments

The use of language learning strategies was assessed by means of Oxford's (1990) Strategy Inventory for Language Learning (SILL). Language learning anxiety was measured by the five-item questionnaire developed by MacIntyre and Gardner (1989). Self-concept was measured by means of a shortened version of the questionnaire developed by Laine (1987) (adapted from Julkunen 1997). Attributions were measured by a questionnaire adapted from Julkunen (1989). Motivation was measured by a questionnaire developed specifically for Croatian EFL learners in an empirical study investigating the relationship between motivation and teaching (Mihaljević 1991).

All the measures were given to the participants in the study as a battery of questions in a single administration. The questionnaires developed by foreign authors were translated into Croatian, the subjects' mother tongue.

2.1.3 Procedure

The five-part-questionnaire was administered during regular English lessons. In most cases the subjects' EFL teacher left the classroom after introducing the researcher and, where this did not happen, the researcher made sure that the teacher did not observe what the subjects were writing in their questionnaires.

2.1.4 Data analysis

The following statistical procedures were performed on the collected data: factor analysis, correlations, analysis of variance and regression analysis. With correlations, only coefficients of .30 and above were considered significant, although lower values were often found to be statistically significant.

2.1.5 Language learning strategies

In order to obtain data on learning strategies that the

subjects employed in their EFL learning, Version 5.1 of SILL (Oxford 1990) was used. Version 5.1. was preferred to Version 7.0 (normally used for EFL learners) because of its greater length (80 items in 5.1 compared with 50 items in 7.0). Since this was an exploratory study, it was considered important to obtain a greater amount of data by administering the longer version (intended principally for speakers of English learning other foreign languages).

SILL consists of six groups of strategies: memory (Part A), cognitive (Part B), compensation (Part C), metacognitive (Part D), affective (Part E), and social (Part F).

In an informal chat with the subjects after they had handed in their questionnaires, some expressed reservations about a number of items in SILL. The reservations referred to the content of some items (e.g., 5, 12, 69), which they found strange, and to the wording of other items (e.g., 32), which they found at first ambiguous or unclear. Some of the latter reservations were due to less than perfect translation solutions.

2.2 Results and discussion

2.2.1 Internal reliability

Cronbach's alpha for internal reliability of SILL in this study was .94, which compares well with other SILL studies and indicates highly focused scales and homogeneity.

2.2.2 Factor analysis

Since we wished to obtain as meaningful information as possible in this first attempt to assess the general language learning strategies of Croatian EFL learners, we decided to abandon the exisiting six-part grouping of the SILL strategies. Thus, instead of aiming at instantiation of the pre-existing categories, we decided to perform factor analysis on the data we had obtained. Using Varimax rotation with the .30 and higher loadings retained, the factor analysis resulted in six factors (Table 1).

The factors accounted for 62.5 % of the variance in the SILL results. The following six factors were isolated:

Factor 1: Memory Strategies – This factor consists of 13 Part A and six Part B strategies. The Part B strategies can be understood as also promoting memorization of the material being learned. On closer inspection, some items in Parts A and B overlap to a certain extent as can be seen in, for example, item 16 (*I say or write new expressions repeatedly to practise them*), which is considered to be a cognitive strategy but can just as well be considered to be a memory strategy.

Variable (SILL Item)	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
19	.58633					
9	.52746					
14	.51661					
5	.49782					
18	.48991					
11	.48846					
8	.48454					
13	.47340					
16	.47307					
20	.46961					
2	.44825					
4	.44491					
12	.43521					
3	.40298					
15	.37820					
10	.37406					
7	.34454					
31	.33?56					
29	.31534					
27		.68990				
23		.61940				
25		.58024				
24		.56251				
21		.54962				
28		.52970				
61		.49564				
78		.49186				
26		.48776				
67		.43537				
80		.40255				
79		.40170				
37		.38954				
17		.35397				
22		.33944				
30		.31806				

Table 1: Rotated factor matrix

Variable (SILL Item)	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
54			.66400			
53			.59465			
62			.57339			
55			.55373			
63			.52186			
66			.48446			
64			.46657			
60			.46332			
33			.45493			
58			.42373			
49			.39431			
56			.37852			
51			.33248			
32			.31152			
52			.30594			
43				.55005		
35				.54471		
39				.53697		
40				.52972		
38				.47078		
59				.45915		
41				.45664		
36				.45297		
34				.41570		
6				.39587		
42				.37922		
1				.37543		
45					.65234	
72					.60617	
73					.56413	
44					.54346	
77					.53373	
46					.43133	
50					.39100	
48					.36487	
65					.32493	

Table 1 (continued): Rotated factor matrix

Variable (SILL item)	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
70						.56053
76						.50945
74						.50220
71						.49898
57						.47814
75						.47335
68						.47015
69						.44250
47						.27144

Table 1 (concluded): Rotated factor matrix

Factor 2: Communicative Strategies – This factor consists of 11 Part B, one Part D, one Part E and three Part F strategies. The items reflect the learner's own initiative in learning in out-of-class situations and an active task approach to learning through seeking out opportunities to use the language and be exposed to it as much as possible. The communicative component rings through many of the items: some of these refer to participating in a communicative act (e.g., 23, 61, 78, 80), while others imply behaviours that equip the learner with communication skills (e.g., 21, 28, 37, 67, 79). The term communicative strategies is used here to avoid confusion with the concept of communication strategies as used in the literature, and because some other authors (e.g., Watanabe 1990, 1991) also isolated such a group of strategies while performing factor analysis on SILL results.

Factor 2 reflects the officially proclaimed aim of EFL learning in Croatia: acquiring communicative competence. This aim seems to be readily adopted by learners, as is evident from this factor as well as studies of motivation which have shown the communicative-pragmatic type of motivation to be the most relevant among Croatian EFL learners (Mihaljević 1991; Mihaljević Djigunović 1998). These strategies reflect the learner's awareness of English as a medium of communication and interaction.

Factor 3: Metacognitive Strategies – The 15 items comprising Factor 3 include two Part B, 12 Part D and one Part E strategies. In a way, they all reflect the learner's attempts to organize and coordinate his learning by planning, setting goals, seeking opportunities for practice, evaluating

his progress and monitoring errors.

Factor 4: Cognitive Strategies – This factor includes two Part A, six Part B, three Part C and one Part D strategies. They are called cognitive strategies here because even the items that are not from Part B (e.g., 43 – *In conversation I anticipate what the other person is going to say based on what has been said so far*) evidence explicit use of the learner's mental processes. The mental processes involved refer to guessing meaning, making inferences about language rules and making cross-linguistic comparisons with the L1.

Factor 5: Comprehension Strategies – Three Part C, two Part D, one Part E and three Part F strategies are included in this factor. These strategies on the whole aim at comprehension, be it the learner's comprehension of other people's meaning, or his making sure that what he is trying to express is in fact understood by others. The attempts at verifying comprehension reflect, in a way, a kind of monitoring of the learner's EFL performance on his part.

Rossi-Lee (1989) identified a similar group of strategies among Asian and Hispanic immigrants to the U.S. who learned English as a second language at two community colleges, and called them *strategies for searching for and communicating meaning*.

Factor 6: Socioaffective Strategies – This factor comprises one Part C, one Part D, four Part E and three Part F items. Most items refer to managing emotions and cooperating with others in order to learn English. The use of these strategies evidences the learner's reflections about his own learning. Watanabe (1990) also isolated a socioaffective strategy factor from the SILL results of Japanese EFL learners.

2.2.3 Frequency of strategy use

The overall mean for SILL was 2.72, with a standard deviation of .55. This indicates that the subjects' use of strategies was in the medium range (2.5–3.5). The means for individual strategies show that the use of only seven strategies was in the high range (3.5–5.0). These relate to being ready to appeal to communication partners for help if necessary (items 45 and 72); being ready to look for other ways of expressing or comprehending messages (items 37, 41 and 46); and making use of all possible ways and sources in order to learn English (items 24 and 63). Among the least frequently used strategies were: describing feelings in a diary (item 70) or to other people (item 71); writing lists of already familiar English words in order to establish associations with the new word being learned (item 9); acting out words (item 12); using flashcards (item 11) or rhymes (item 5) when learning new vocabulary.

In terms of the groups of strategies isolated by factor analysis, the most frequently used strategies were comprehension (mean=3.29, SD=.73) and communicative strategies (mean=3.01, SD=.79), followed by metacognitive (mean=2.85, SD=.79) and cognitive strategies (mean=2.83, SD=.71), while memory strategies (mean=2.46, SD=.62) and socioaffective strategies (mean=1.89, SD=.64) were used least frequently (Figure 1).

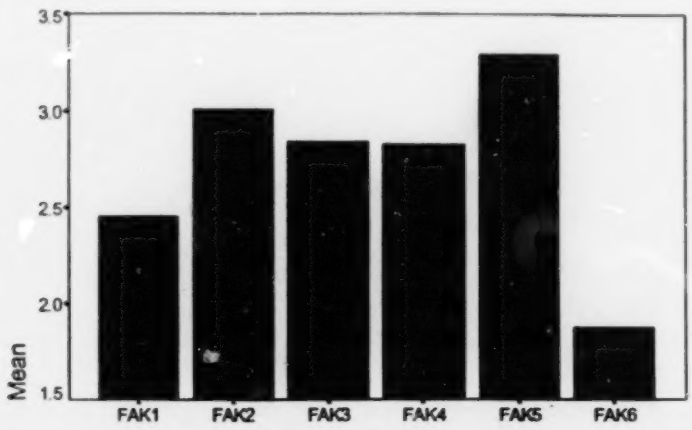

Figure 1: Frequency of the six strategy groups

(FAK1 = Factor 1 – memory strategies; FAK2 = Factor 2 – communicative strategies; FAK3 = Factor 3 – metacognitive strategies; FAK4 = Factor 4 – cognitive strategies; FAK5 = Factor 5 – comprehension strategies; FAK6 = Factor 6 – socioaffective strategies)

This first study of general language learning strategies used by Croatian EFL learners shows, yet again, that strategies are connected with the cultural context in which English (or any language for that matter) is learned. In this study, perhaps not so surprisingly, the dynamics of the obtained data on strategy use proved to be different from those in other contexts (e.g., Chinese or American). Thus, we may consider language learning strategies to be culture-specific. The extent to which two cultures differ in aspects relevant for language learning may be reflected in the learners' choice of strategies.

2.3 Language learning strategies and anxiety

In the context of language learning, language learning anxiety is defined as a feeling of fear or unease experienced when confronted with the need to use a language one does not feel competent in. In some language learning models (e.g., Gardner's socio-educational model in

Gardner and MacIntyre 1993) anxiety is assigned an important role and is considered to influence several other variables determining the language learning process. MacIntyre and Gardner (1989) point out that language learning anxiety develops as a consequence of repeated negative experiences with learning or using the second language. The cumulative effect of the fear initially connected with particular language learning situations results in associating the fear exclusively with the language being learned. Like Spilberg (1962), who claims that the effect of anxiety changes as a function of ability level, MacIntyre and Gardner maintain that language learning anxiety decreases with increasing language competence since the more proficient the learner becomes, the more positive are his experiences of learning and using the new language. Some authors insist on the facilitating aspects of anxiety (Kleinmann 1977, Scovel 1978, Spilberg 1962, Williams 1991), claiming that such a beneficial influence occurs with high-ability learners (as opposed to average- or low-ability learners) at higher levels of learning or when the anxiety levels are low.

Among the aspects that language learning anxiety may affect are learning strategies. It is hypothesized that language learning anxiety may influence what strategies the language learner will employ in his efforts to master the language. Ely (1986) found a connection (though weak) between classroom participation and anxiety as measured by the Language Discomfort scale. Gardner et al. (1979) demonstrated that anxiety may not always be implicated in language learning achievement. Diary studies (Bailey 1983) have revealed important effects of language learning anxiety on learning. Kellerman (1991) maintains that an inability to use strategies effectively may be a consequence of classroom anxiety. It seems that the relationship between language learning strategies and language learning anxiety cannot be expected to be simple or straightforward but is probably influenced by the complex effects that other relevant factors have on both of these variables.

2.3.1 Results and discussion

The subjects in this study reported relatively low levels of anxiety (Table 2 and Figure 2). None of the correlations computed between strategies and anxiety were statistically significant.

Since an analysis of variance showed a significant difference in anxiety among the subjects when we divided them into three age groups (primary school, secondary school and adult groups; $F = 5.8234$, $p < .0032$), we decided to compute correlation coefficients for each of the age groups.

	Mean	SD
Overall anxiety	2.01	1.07
Anx 1 embarrassed to volunteer	2.04	1.37
Anx 2 insecure	2.07	1.31
Anx 3 others are better	2.30	1.47
Anx 4 nervous	2.00	1.29
Anx 5 being ridiculed	1.68	1.18

Table 2: Means and SD for overall anxiety and each anxiety item

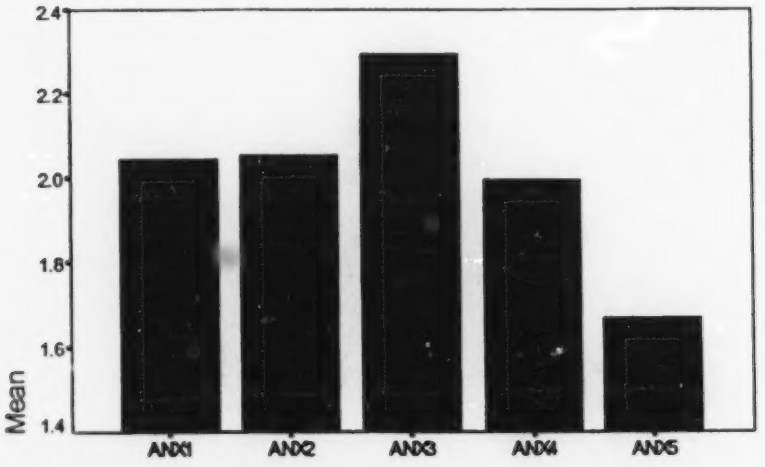

Figure 2: Means for the five items in the anxiety measure

2.3.2 Primary school group

The group comprised 137 eighth graders (aged 13–14) from five primary schools. 96 of them had been learning English for eight years

while 41 had been learning it for five years at the time the questionnaires were administered.

Correlations between overall means for SILL and anxiety as well as the six strategy groups and the five anxiety components were computed. None of the coefficients were considered significant because, though some were statistically significant, they were all below .30.

2.3.3 Secondary school group

The SILL and language anxiety questionnaires were administered to a total of 169 secondary school learners during their regular English classes.

Correlations were computed between strategy and anxiety measures (Table 3). The overall SILL mean did not correlate with the anxiety questionnaire mean. However, communicative strategies correlated negatively with items 2 and 3. Learners who reported feeling insecure while speaking English in class and having the impression that others in class knew English better, reported using opportunities for out-of-class learning less frequently than those learners who did not report such aspects of anxiety.

	Anxiety	Item 1	Item 2	Item 3	Item 4	Item 5
SILL						
Memory						
Communicative			–.31**	–.30**		
Metacognitive						
Cognitive						
Comprehension						
Socioaffective						

**p<.01

Table 3: Correlations between strategies and anxiety for the secondary school sample

(Item 1 – *embarrassed to volunteer answers in class;* Item 2 – *insecure when speaking English in class;* Item 3 – *others know English better than me;* Item 4 – *nervous when speaking English in class;* Item 5 – *afraid others will laugh at my English*)

2.3.4 Adult learner group

The same instruments were administered to the 56-subject group and the same correlations were examined (Table 4). The coefficients show no significant correlations between the overall SILL mean and anxiety. Anxiety, however, correlated significantly with communicative strategies (negative correlation) and socioaffective strategies (positive correlation). The more anxious the learners were, the more they resorted to self-encouragement, sharing experiences and learning with others, and the less they reported making use of out-of-class opportunities for learning.

A closer look at the correlations between strategy groups and individual anxiety items points to interesting interactions too. Communicative strategies correlated significantly with all anxiety aspects. The more embarrassed the learners were about volunteering answers in class, the more insecure they felt when speaking in class; the more they felt others

	Anxiety	Item 1	Item 2	Item 3	Item 4	Item 5
SILL						
Memory strategies						
Communicative strategies	−.38**	−.31*	−.38**	-.35*	−.30*	−.34*
Metacognitive strategies						
Cognitive strategies						
Comprehension strategies		.31*				
Socioaffective strategies	.41**		.35*	.38**	.48**	.31*

* p< .05; **p<.01

Table 4: Correlations between strategies and anxiety for the adult group

knew English better than they did, the more nervous they were when speaking English in school; and the more they were afraid others would laugh at their English, the less frequently they reported using communicative strategies. It is interesting that learners who reported being embarrassed about volunteering answers in class also reported using comprehension strategies frequently. Socioaffective strategies correlated significantly with all anxiety items except item 1. Thus, adult learners who reported feeling insecure, nervous, fearful of ridicule and less knowledgeable also reported resorting to self-encouragement and sharing experiences with others.

It seems that language learning anxiety may be a function of age. A comprehensive insight into its interaction with language learning strategies may not be possible without first considering the age factor.

2.4 Language learning strategies and self-concept

Self-concept is an important learner factor and may be expected to influence many aspects of foreign language learning. Deciding whether to use learning strategies, which ones to use, when and how to apply them may be a constant dilemma for many language learners. One of the factors determining the learners' answer to the question about strategy use is probably their self-concept, that is, the concept they have of themselves as foreign language learners. Self-concept is partly the result of, on the one hand, past experiences and, on the other, the learner's perception of other people's (especially significant others') reactions to him.

Sinclair (1987) claims that some aspects of the academic self-concept are relevant in determining how ready the learner will be to study when he is confronted with choices. By implication we can assume that self-concept will influence the way the learner learns, that is, his use of learning strategies. This relationship is probably not linear since other variables, such as attributions of success or failure, may play a role, affecting both self-concept and use of learning strategies. A positive self-concept is believed to be important in facilitating language learning (Ushioda 1996). However, none of the studies so far to hand have looked at the possible interaction of self-concept and learning strategies.

Self-concept was measured by means of a shortened version of the questionnaire developed by Laine (1987) (adapted from Julkunen 1997). The 6-item questionnaire referred to the learner's actual concept of self, the social component of self-concept as perceived by the EFL teacher and co-learners, the degree to which the learner was satisfied with his EFL achievement, and the degree of his aspirations in mastering English.

2.4.1 Results and discussion

First, the means of the self-concept measure were computed (Table 5, Figure 3). As can be seen from these results, the subjects had a medium-level self-concept, with the grade aspiration component the highest.

	Mean	SD
Self-concept	2.75	.61
Self 1 **I think I am good**	2.50	.67
Self 2 **My teacher thinks I am good**	2.38	.74
Self 3 **My peers think I am good**	2.49	.66
Self 4 **I am satisfied with my grade**	2.16	.78
Self 5 **I intend to get a good grade**	4.21	.87

Table 5: Means for self-concept and its components

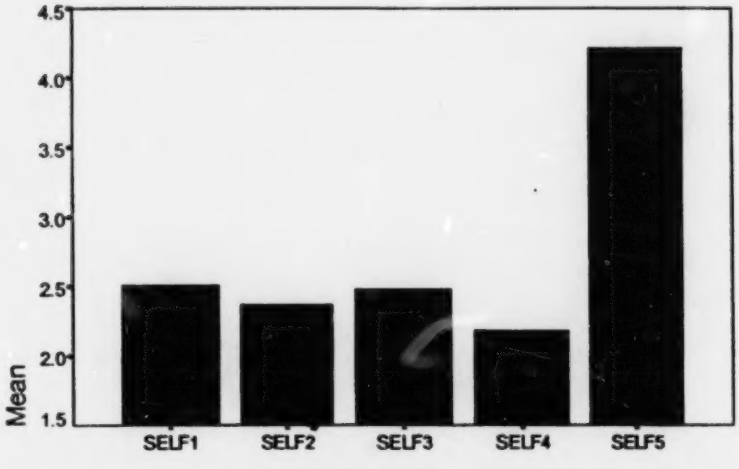

Figure 3: Means for the five components of self-concept

Correlation coefficients were computed between the SILL mean and the self-concept mean. To get a more in-depth look at the interactions of these two variables, coefficients were computed also for the combinations of individual strategy groups and individual self-concept items. All the results are presented in Table 6. As the coefficients indicate, overall strategy use did not correlate significantly with self-concept.

	Self-concept
SILL (overall)	
Memory strategies	
Communicative strategies	.37**
Metacognitive strategies	
Cognitive strategies	
Comprehension strategies	
Socioaffective strategies	

**p<.001

Table 6: Correlation between language learning strategies and self-concept

However, a look at the relationship between self-concept and individual strategy groups reveals that communicative strategies did correlate with self-concept. The better the learners thought of themselves as language learners, the more often they reported using out-of-school opportunities to learn and practise English.

Individual self-concept components were correlated with the overall SILL mean and individual strategy groups (Table 7). The overall SILL mean did not correlate significantly with any of the self-concept aspects.

The actual self-concept component (Self 1) correlated positively with communicative strategies. Thus, the more highly the learners thought of themselves as EFL learners, the more they practised English out of school

The social self-concept component (Self 2) correlated positively with communicative strategies. The more favourably the learners thought their teacher judged their English achievements, the more they used English out of class. The same is true of learners with high aspirations (Self 5).

	Self 1	Self 2	Self 3	Self 4	Self 5
SILL					
Memory					
Communicative	.30**	.31**			.32**
Metacognitive					
Cognitive					
Comprehension					
Socioaffective					

**p<.001

Table 7: Correlations of self-concept components with strategies

(Self 1 – *satisfied with my English;* Self 2 – *my teacher thinks my English is good;* Self 3 – *others in class think my English is good;* Self 4 – *satisfied with my English grade;* Self 5 – *the grade I intend to get*)

2.5 Language learning strategies and attributions

What foreign language learners attribute their success to may in some ways, yet to be discovered, determine how they go about learning. They may decide to stick to learning strategies that do not lead to success if they ascribe failure to factors that are not under their control (e.g., language aptitude). Or, learners may keep looking for ever more effective ways of learning the language if they ascribe success to factors that are unstable, internal or accessible to their control (e.g., effort).

The attributions questionnaire had Likert-type five-point scales of agreement accompanying statements attributing success to knowledge, effort, luck, easy assignments, interest of the assignments, and enjoyment in doing the assignments.

2.5.1 Results and discussion

Table 8 and Figure 4 present the means and SD for the six success attributions. As can be seen from these results, the subjects most frequently attributed their success in learning English to knowledge and effort, and least frequently to task enjoyment.

Results of correlations between the six attributions and strategies are

	Mean	SD
Knowledge	4.14	1.05
Effort	3.62	1.33
Luck	3.01	1.38
Easy task	3.08	1.34
Interesting task	2.92	1.41
Enjoying task	2.69	1.49

Table 8: Means for the six attributions

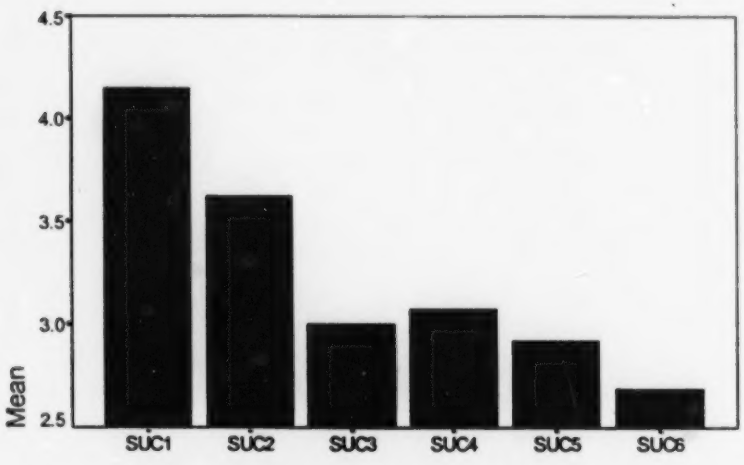

Figure 4: Means for the six attributions

(Suc 1 – *knowledge*; Suc 2 – *effort*; Suc 3 – *luck*; Suc 4 – *easy task*; Suc 5 – *interesting task*; Suc 6 – *task enjoyment*)

presented in Table 9.

Significant correlations were established between the overall SILL mean and attributing success to effort. Those learners who attributed their success in EFL to the effort they invested in learning tended to report using language learning strategies more often than those who did not attribute their success to this factor.

In terms of strategy types, attributing success to effort correlated significantly with memory and metacognitive strategies, while attributing

	Suc 1	Suc 2	Suc 3	Suc 4	Suc 5	Suc 6
SILL		.36				
Memory		.34**				
Communicative						.34**
Metacognitive		.42**				.30**
Cognitive						
Comprehension						
Socioaffective						

**p<.01

Table 9: Correlations between language learning strategies and attributions of success

(Suc 1 - *knowledge*; Suc 2 - *effort*; Suc 3 - *luck*; Suc 4 - *easy task*; Suc 5- *interesting task*; Suc 6 - *task enjoyment*)

success to task enjoyment showed significant correlations with communicative and metacognitive strategies. Thus, learners who thought they were successful because they expended a lot of effort in their learning reported employing various ways of memorizing the language material, as well as organizing and controlling their learning. Learners who associated their success with enjoying language tasks reported taking initiatives in out-of-class English use in order to learn it better, as well as taking the trouble to organize and monitor their learning process.

2.6 Language learning strategies and motivation

Motivation is one of the most important factors exerting a strong influence on the way language learners use learning strategies. Although in the strategy literature this learner factor is often mentioned as relevant, the relationship between strategies and motivation has been the main focus of very few studies (e. g., Kaylani 1996; Levine et al. 1996). The need to study the link between the learner's predisposition to use certain strategies and his motivational pattern has been reiterated in the literature (e.g., Skehan 1989; Cohen 1998). One of the main conclusions of the Good Language Learner project in Canada (Naiman et al. 1978) concerns the

need to relate strategies to motivational (and personality) factors in the learner. Nunan (1996) found that strategy training had a significant effect on learner motivation.

Since language learning motivation is a socio-psychological category and thus influenced by the sociocultural context in which a language is being learned (Gardner 1985), it is essential that the instruments used to assess the motivation of particular language learners take into account the characteristics of the learning context. In short, the validity of the measure is a key consideration.

In order to capture the full scope of the motivation of Croatian learners of EFL, the phenomenon was measured by an instrument developed specifically for Croatian learners (Mihaljević Djigunović 1998). It consisted of 38 Likert-type five-point scales of agreement measuring three types of motivation and two demotivators isolated by the factor analysis procedure. The types of motivation were: pragmatic-communicative implying the learner's wish to use English for practical purposes coupled with the wish to be able to communicate with foreigners; integrative motivation, referring to the learner's wish to become a member of the cultural-linguistic group that speaks English as L1; and affective motivation, indicating that the learner wishes to know English because he likes the English language as such. The first demotivator was termed the *teaching-setting demotivator* and referred to being demotivated for learning English because the learner disliked the methods of teaching used in the course, the teaching materials were not stimulating, or because of some quality attached to the teacher (e.g., the teacher's English was not good enough, the teacher was partial in assigning grades, and so on). The second demotivator, the *learning difficulties demotivator*, implied that the learner did not like learning English because he found it too difficult and complicated to learn, or that he lost ground and could not cope with the learning material because of a deficient knowledge base (frequent among non-beginners).

2.6.1 Results and discussion

As can be seen in Table 10 and Figure 5, the subjects reported above average overall motivation. The strongest type was pragmatic-communicative motivation, while integrative motivation was the least intensive type.

Strategies were found to correlate significantly with motivation (Table 11). The more motivated the learners were to learn English, the more frequently they reported using strategies.

When motivation was correlated with each of the six strategy groups,

	Mean	SD
Overall motivation	3.82	.46
Affective motivation	3.51	.71
Integrative motivation	2.87	1.06
Pragmatic-communicative motivation	4.02	.55

Table 10: Means for motivation

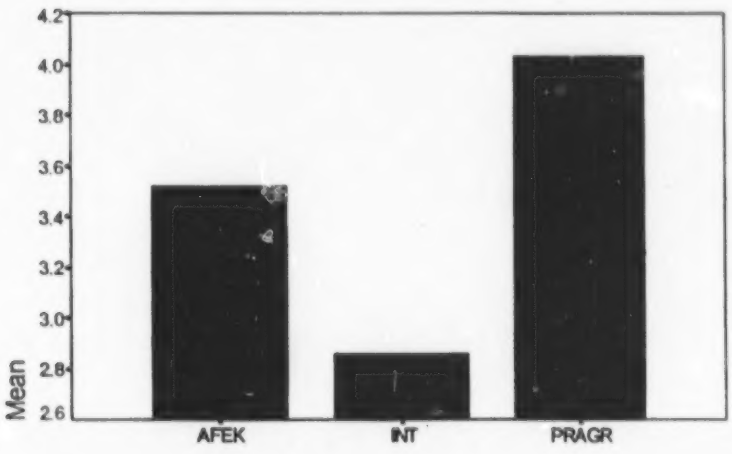

Figure 5: Means for the three types of motivation

the correlations with communicative, metacognitive and cognitive strategies were found to be statistically significant. Thus, the more motivated the learners were, the more communicative, metacognitive, cognitive and comprehension strategies they reported using.

The SILL means were also correlated separately with each type of motivation (Table 12). While the correlations between affective and pragmatic-communicative types of motivation were significant, integrative motivation did not correlate with SILL.

Next, correlations were computed between motivation types and strategy groups (Table 13). Only communicative strategies correlated with all types of motivation. While metacognitive strategies correlated significantly with affective and pragmatic-communicative types of motivation, memory, cognitive, comprehension and socioaffective strategies did not correlate with any of the three types of motivation.

	Motivation
SILL	.42**
Memory	
Communicative	.52**
Metacognitive	.45**
Cognitive	.30**
Comprehension	
Socioaffective	

**p<.001

Table 11: Correlation coefficients between overall motivation and learning strategies

	SILL
Affective	.40**
Integrative	
Pragmatic-communicative	.33**

**p<.001

Table 12: Correlation coefficients between overall SILL and motivation types

Learners who were motivated to learn English because they liked it as a language (affective motivation) reported looking for out-of-class opportunities to learn English and making an effort to organize their learning. Integratively motivated learners also reported using out-of-class opportunities to practise their English, while learners with a pragmatic-communicative type of motivation reported the same behaviour as affectively motivated learners.

	Memory	Commu-nicative	Meta-cognitive	Cogni-tive	Compre-hension	Socio-affective
Affective		.47**	.38**			
Integrative		.31**				
Pragmatic-communicative		.47**	.32**			

**p<.001

Table 13: Correlation coefficients between motivation types and learning strategies

2.7 Contribution of the four affective attributes to variance in strategy use

In order to get a better insight into the association of language learning strategies and the four affective learner attributes investigated in the study, a regression analysis was performed on the SILL means as the criterion variable. The independent variables included the cumulative results on the anxiety, self-concept and motivation measures, and the results on each of the six items in the success attribution questionnaire.

The regression results showed that the variables in question were highly connected (Multiple R = .56; F = 12.754, $p < .001$). The R Square showed that the included variables explained about 31% of variance in the reported strategy use frequency result. The highest correlation with the criterion variable was found for motivation (.35), followed by attributing success to effort (.30) and attributing success to task enjoyment (.20).

The profile of the learner who uses strategies frequently is thus characterized by high motivation for learning English and by attributing success in learning to both effort and task enjoyment.

3 Conclusion

The study presented here throws some light on the interactions between affective learner attributes and language learning strategies. It may be fair to say that the results described above present interesting findings. Language learning strategy use was shown to be associated with all four affective learner factors.

Since many of the correlations established between affective learner attributes and strategy scores or their components were statistically significant but the coefficients not especially high, they can best be taken as indications of relationships that may possibly exist between these variables.

One of the general learner factors that interacted with the affective learner characteristics was age of the learner. The interaction became apparent when the association of strategies with anxiety was viewed with reference to age.

3.1 Limitations of the study

Generalizing the results obtained here calls for some caution owing to a few limitations of the study. The first limitation is the fact that data collection for strategy use was carried out by one method only: the SILL. Language learning strategies are a very complex phenomenon and may warrant eliciting data by more than one method (triangulation). Secondly, SILL, while very comprehensive and practical, may be considered too general a tool since it does not refer to specific language learning tasks or activities. Thirdly, the study described here is a cross-sectional study. Longitudinal research would quite possibly point to deeper interactions between the variables in question.

3.2 Implications for further research

It would be interesting to see how the results obtained in our particular context would compare with similar findings in other contexts, both second and foreign language ones. Using the same instruments on other samples would also establish their validity and reliability.

We believe it would be very englightening to look into the same phenomena using other methods of data elicitation, especially think-aloud protocols.

By using a questionnaire format to elicit information concerning strategies that the learner employs during a specific language learning activity and his affective dispositions at the time, we might also gain further insight into the interaction of strategies and affective factors.

Looking into the association of other learner variables (e.g., cognitive style, attitudes, gender, intelligence, aptitude, etc.) with learning strategies may be revealing as well. It can be postulated that one of the other variables influences either learning strategies or affective factors, or both, and it might not be possible to conclude much before these interactions are taken into consideration.

Finally, it would be necessary to think about the implications of the

established links for pedagogical practice. Besides its value and relevance for second language acquisition theory, research of this type would have to relate to the practice of language learning as well.

References

Bacon, S. M., & M. D. Finnemann, 1990: A study of the attitudes, motives, and strategies of university foreign language students and their disposition to authentic oral and written input. *Modern Language Journal* 74, pp.459–73.

Bailey, K. M. , 1983: Competitiveness and anxiety in adult second language learning: Looking at and through the diary studies. In H. W. Seliger & M. H. Long (eds), *Classroom Oriented Research in Second Language Acquisition*, pp. 67–103. Rowley, MA: Newbury House.

Cohen, A. D., 1998: *Strategies in Learning and Using a Second Language*. London and New York: Longman.

Ely, C. M., 1986: An analysis of discomfort, risktaking, sociability, and motivation in the L2 classroom. *Language Learning* 36, 1, pp.1–25.

Ehrman, M. E., & R. L. Oxford, 1990: Adult language learning styles and strategies in an intensive training setting. *Modern Language Journal* 74, pp.311–27.

Gardner, R. C., 1985: *Social Psychology in Second Language Learning*. London: Arnold.

Gardner, R. C., & P. D. MacIntyre, 1992: A student's contribution to second-language learning. Part I: Cognitive Variables. *Language Teaching* 25, pp.211–220.

Gardner, R. C., & P. D. MacIntyre, 1993: A student's contribution to second-language learning. Part II: Affective Variables. *Language Teaching* 26, pp.1–11.

Gardner, R., P. Smythe & R. Clement, 1979: Intensive second language study in a bicultural milieu: an investigation of attitudes, motivation and language proficiency. *Language Learning* 29, pp.305–20.

Julkunen, K., 1989: *Situation- and task-specific motivation in foreign language learning and teaching*. University of Joensuu: Publications in Education 6.

Julkunen, K., 1997: *English Language Learning Motivation in Joensuu and Petrozavodsk*. University of Joensuu: Research Reports of the Faculty of Education.

Kaylani, C., 1996: The influence of gender and motivation on EFL learning strategy use in Jordan. In Oxford (ed.), pp.75–88.

Kellerman, E., 1991: Compensatory strategies in second language research: a critique, a revision, and some (non-)implications for the classroom. In R. Phillipson, E. Kellerman, L. Selinker, M. Sharwood Smith & M. Swain (eds.), *Foreign/second language pedagogy research*, pp.142–61. Clevedon: Multilingual Matters.

Kleinmann, H., 1977: Avoidance behaviour in adult second language acquisition.

Language Learning 27, pp.93–107.

Laine, E., 1987: *Affective factors in foreign language learning and teaching: the study of filter. Report 1. Theoretical concepts and framework, operationalization of the concepts and the first pilot stage of research.* University of Jyväskylä: Jyväskylä Cross-language Studies.

Levine, A., T. Reves & B. L. Leaver, 1996: Relationship between language learning strategies and Israeli versus Russian cultural-educational factors. In Oxford (ed.), pp.35–45.

McDonough, S. H., 1995: *Strategy and Skill in Learning a Foreign Language.* London: Arnold.

MacIntyre, P. D., & R. C. Gardner, 1989: Anxiety and second language learning: towards a theoretical clarification. *Language Learning* 39:2, pp.251–273.

Mihaljević, J., 1991: *Nastava engleskog jezika i motivacija za učenje* (Teaching English as a foreign language and learning motivation). Unpublished Ph.D. thesis, University of Zagreb.

Mihaljević Djigunović, J., 1998: *Uloga afektivnih faktora u učenju stranoga jezika.* Filozofski fakultet Sveučilišta u Zagrebu.

Naiman, N., M. Fröhlich, H. Stern, & A. Todesco, 1978: *The Good Language Learner.* Research in Education Series No. 7. Toronto: Ontario Institute for Studies in Education.

Nisbet, J., & J. Shucksmith, 1986: *Learning Strategies.* London, Boston and Henley: Routledge and Kegan Paul.

Nunan, D., 1996: *The Effect of Strategy Training on Student Motivation, Strategy Knowledge, Perceived Utility and Deployment.* Hong Kong: University of Hong Kong, The English Centre.

Nyikos, M., 1990: Sex-related differences in adult language learning: socialization and memory factors. *Modern Language Journal* 74, pp.274–87.

O'Malley, J. M., & A. U. Chamot, 1990: *Learning Strategies in Second Language Acquisition.* Cambridge: Cambridge University Press.

Oxford, R. L., 1990: *Language Learning Strategies: What Every Teacher Should Know.* New York: Newbury House.

Oxford, R. L. (ed.), 1996: *Language Learning Strategies Around the World: Cross-cultural Perspectives.* Technical Report #13. Honolulu: University of Hawai'i, Second Language Teaching and Curriculum Center.

Oxford, R. L., & D. Crookall, 1989: Research on language learning strategies: methods, findings, and instrumental issues. *Modern Language Journal* 73, pp.404–19.

Oxford, R. L., & M. Nyikos, 1989: Variables affecting choice of language learning strategies by university students. *Modern Language Journal* 75, pp.292–300.

Rossi-Lee, L., 1989: *Perceptual Learning Style Preferences and their Relationship to Language Learning Strategies in Adult Students of English as a Second Language.* Unpublished doctoral dissertation, Drake University, Des Moines, IA.

Rubin, J., 1975: What the good language learner can tell us. *TESOL Quarterly* 9, pp.41–51.

Scovel, T., 1978: The effect of affect on foreign language learning: a review of

the anxiety research. *Language Learning* 28, pp.129–42.
Sinclair, K. E., 1987: Students' affective characteristics. In M. J. Dunkin (ed.), *The International Encyclopedia of Teaching and Teacher Education*, pp.559–68. Oxford: Pergamon Press.
Skehan, P., 1989: *Individual Differences in Second-Language Learning*. London: Arnold.
Spilberg, C., 1962: *Manual for the State-Trait Anxiety Inventory (Form Y)*. Palo Alto, CA: Consulting Psychologists Press.
Stern, H. H., 1975: What can we learn from the good language learner? *Canadian Modern Language Review* 31, pp.304–18.
Ushioda, E., 1996: *Learner Autonomy. 5: The Role of Motivation*. Dublin: Authentik.
Watanabe, Y., 1990: *External variables affecting language learning strategies of Japanese EFL learners: Effects of entrance examinations, years spent at college/university, and staying overseas*. Unpublished M.A. thesis, University of Lancaster.
Watanabe, Y., 1991: Classification of language learning strategies. *International Christian University Language Research Bulletin* 6:1, pp.75–102.
Williams, K., 1991: Anxiety and formal foreign language learning. *RELC Journal* 22, pp.19–28.

29. Susan Abbey, *A case for on-going evaluation in English language teaching projects* (43pp.)

Spring 1992

30. Frank Donoghue, *Teachers' guides: a review of their function* (51pp.)
31. Barbara Byrne, *Relevance Theory and the language of advertising* (76pp.)

Summer 1992

32. Jonathan West, *The development of a functional-notional syllabus for university German courses* (50pp.)
33. James Mannes Bourke, *The case for problem solving in second language learning* (23pp.)

Autumn 1992

34. Tom Hopkins, *Intertextuality: a discussion, with particular reference to* The Waste Land (28pp.)
35. David Singleton & Emer Singleton, *University-level learners of Spanish in Ireland: a profile based on data from the TCD Modern Languages Research Project* (12pp.)

Spring 1993

36. Frank Maguire, *Sign languages: an introduction to their social context and their structure* (39pp.)
37. Ema Ushioda, *Acculturation theory and linguistic fossilization: a comparative case study* (54pp.)

Summer 1994

38. Carl James, Phil Scholfield & George Ypsiladis, *Cross-cultural correspondence: letters of application* (28pp.)
39. Dieter Wolff, *New approaches to language teaching: an overview* (18pp.)

Spring 1995

40. James A. Coleman, *Progress, proficiency and motivation among British university language learners* (38pp.)

Summer 1995

41. Terence Odlin, *Causation in language contact: a devilish problem* (40pp.)
42. Dee McGarry, *An integrated ESL and cultural studies syllabus* (43pp.)

Spring 1996

43. Terence Odlin, *"Sorrow penny yee payed for my drink": taboo, euphemism and a phantom substrate* (24pp.)
44. Michael Sharwood Smith, *The Garden of Eden and beyond: on second language processing* (20pp.)
45. Diana Masny, *Examining assumptions in second language research* (24pp.)

Summer 1996

46. David Little & Helmut Brammerts (eds), *A guide to language learning in tandem via the Internet* (24pp.)

Spring 1997

47. Barbara Lazenby Simpson, *Social distance as a factor in the achievement of pragmatic competence* (60pp.)
48. Danièle Tort-Moloney, *Teacher autonomy: a Vygotskian theoretical framework* (54pp.)
49. Terence Odlin, *Hiberno-English: pidgin, creole, or neither?* (39pp.)

Autumn 1997

50. Robert J. Fouser, *Pragmatic transfer in highly advanced learners: some preliminary findings* (44pp.)
51. Hans W. Dechert, *What's in a life?* (19pp.)

Spring 1998

52. Ghiath El-Marzouk, *Avoidance defined: the psychology of linguistic determinism and the ontology of cognitive predeterminism* (74pp.)
53. David Singleton, *Lexical processing and the "language module"* (38pp.)

Spring 1999

54. Marie Christine Appel, *Tandem language learning by e-mail: some basic principles and a case study* (64pp.)
55. David Little, Ema Ushioda, Marie Christine Appel, John Moran, Breffni O'Rourke, Klaus Schwienhorst, *Evaluating tandem language learning by e-mail: report on a bilateral project* (54pp.)

Summer 2000

56. Laila Aase, Anne-Brit Fenner, David Little, Turid Trebbi, *Writing as cultural competence: a study of the relationship between mother tongue and foreign language learning within a framework of learner autonomy* (52pp.)
57. David Singleton, Síle Harrington, Alison Henry, *At the sharp end of language revival: English-speaking parents raising Irish-speaking children* (12pp.)
58. Karen Ruddock, *An argument for the use of authentic texts with beginners of Japanese as a foreign language* (12pp.)

Autumn 2000

59. Jelena Mihaljević Djigunović, *Language learning strategies and affect* (28pp.)